UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/014,192	11/13/2001	Srinivas Gutta	US 010569	3013

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EXAMINER
USTARIS, JOSEPH G

ART UNIT	PAPER NUMBER
2623	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/02/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>18 December 2006</u>.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1,3-9,11-14 and 16-23</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1,3-9,11-14 and 16-23</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>31 January 2002</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail. Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   This action is in response to the amendment dated December 18, 2006 in

application 10/014,192.

The objection to the abstract is now withdrawn in view of the amendments.

Claim Rejections - 35 USC § 101

2.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Section IV.C, reads as follows:

> While abstract ideas, natural phenomena, and laws of nature are not eligible for patenting, methods and products employing abstract ideas, natural phenomena, and laws of nature to perform a real-world function may well be. In evaluating whether a claim meets the requirements of section 101, the claim must be considered as a whole to determine whether it is for a particular application of an abstract idea, natural phenomenon, or law of nature, rather than for the abstract idea, natural phenomenon, or law of nature itself.

> "... claims directed to nothing more than abstract ideas (such as mathematical algorithms), natural phenomena, and laws of nature are not eligible for and therefore excluded from patent protection ..."

> "while a scientific truth, or mathematical expression of it, is not a patentable invention, a novel and useful structure created with the aid of knowledge of scientific truth may be"

> "One may not patent a process that comprises every 'substantial practical application' of an abstract idea, because such a patent 'in practical effect would be a patent on the [abstract idea] itself ...'"

Claim(s) 1, 3-9, 11-14, and 16-23 is/are rejected under 35 U.S.C. 101 because

the claimed invention is directed to non-statutory subject matter as follows. Claims 1, 9,

14, 19, and 20 define nothing more than mathematical algorithm that, by itself, is a

Judicial Exception (i.e., non-statutory). Judicial Exceptions may be statutory if they

recite a practical application, or they are part of an otherwise statutory claim, **and** if the claimed practical application does not "preempt" the Judicial Exception. While 1, 9, 14, 19, and 20 appears to broadly recite a practical application of the mathematical algorithm, such a broad application preempts the mathematical algorithm because in effect, it recites every "substantial practical application" thereof. Therefore, 1-20 are rejected as being non-statutory as preempting a law of nature.

The examiner suggests clarifying the claimed practical application so as to exclude recitation of every "substantial practical application" of the claimed law of nature. Any amendment to the claim should be commensurate with its corresponding disclosure.

Furthermore, claim 19 is rejected under 35 U.S.C. 101 because the claimed invention is directed to a disembodied computer program, which falls under non-statutory subject matter.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-7, 9, 11, 12, 14, 16, 17, 19, 20, and 21-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Chislenko et al. (US006041311A).

Regarding claim 1, Chislenko et al. (Chislenko) discloses a method for identifying one or more mean items (e.g. the rated items, which their ratings are averaged) for a plurality of items (e.g. the group), J, each of the items having a symbolic value (e.g. the value of the rating) of a symbolic attribute (e.g. the rating of the item), the method comprising (See col. 10 lines 32-64):

computing a variance of the symbolic values of the plurality of items (e.g. the value of the centroid of the group) relative to the symbolic value of each of the items (e.g. how much of a difference/variance is the item rating from the value of the group centroid) (See col. 10 lines 58-64); and

selecting at least one mean item (e.g. the item best represents the groups average rating, for example "POP" music rating) that has symbolic value that minimizes the variance (e.g. the item rating matches the group centroid when there is minimum difference/variance from the group centroid) (See col. 10 lines 32-64).

Regarding claim 3, the system assigns a label to the plurality of items using the symbolic value of the selected mean item (See col. 10 lines 21-26 and 32-42).

Regarding claim 4, the plurality of items are a cluster including of similar items (e.g. each group includes similar music content/genre) (See col. 10 lines 32-64).

Regarding claim 5, the items are programs (e.g. music programs and movies) (See col. 3 lines 6-14).

Regarding claim 6, the items are content (e.g. music recordings and movies) (See col. 3 lines 6-14).

Regarding claim 7, the items are products (e.g. novels and restaurants) (See col. 3 lines 6-14).

Claim 9 contains the limitations of claim 1 (wherein the method describes the qualities of the plurality of items by placing each item into groups) and is analyzed as previously discussed with respect to that claim. Furthermore, the selected item has the mean symbolic value (e.g. the item best represents the groups average rating, for example "POP" music rating) (See col. 10 lines 32-64).

Claim 11 contains the limitations of claims 3 and 9 and is analyzed as previously discussed with respect to those claims.

Claim 12 contains the limitations of claims 4 and 9 and is analyzed as previously discussed with respect to those claims.

Claim 14 contains the limitations of claim 1 (wherein the system has a memory for storing computer readable code and a processor operatively coupled to the memory (See Fig. 3, col. 2 lines 40-55 and col. 19 lines 41-51)) and is analyzed as previously discussed with respect to that claim.

Claim 16 contains the limitations of claims 3 and 14 and is analyzed as previously discussed with respect to those claims.

Claim 17 contains the limitations of claims 4 and 14 and is analyzed as previously discussed with respect to those claims.

Claim 19 contains the limitations of claim 1 (wherein the process is stored on an article of manufacture (See Fig. 3, col. 2 lines 40-55 and col. 19 lines 41-51)) and is analyzed as previously discussed with respect to that claim.

Claim 20 contains the limitations of claims 1 and 14 (wherein the system has the means to computing and selecting as discussed in the claims above) and is analyzed as previously discussed with respect to those claims.

Regarding claim 21, the system includes:

computing a plurality of other variances (e.g. how much of a difference/variance is the item rating from the value of the other group centroids, for example "Opera" or "Rock") of other symbolic values of a plurality of other symbolic attributes of the plurality of items (e.g. the other value of the centroid of the other groups) relative to each other symbolic value of each of the items (e.g. the value rating for the item) (See col. 10 lines 32-64); and

selecting a plurality of other mean items (e.g. multiple mean items are selected after the iterative process is done to form the groups), each other mean item having the other symbolic value that minimizes each other variance (e.g. the item rating matches the group centroid when there is minimum difference/variance from the group centroid compared to the other group centroids) (See col. 10 lines 32-64).

Regarding claim 22, characterizing the plurality of items using the symbolic value of the at least one mean item and the other symbolic values of the plurality of other mean items (e.g. each item represents the groups average rating, for example "POP" music rating) (See col. 10 lines 32-64).

Regarding claim 23, the system includes:

computing a plurality of other variances (e.g. how much of a difference/variance is the item rating from the value of the other group centroids, for example "Opera" or

"Rock") of other symbolic values of a plurality of other symbolic attributes of the plurality

of items (e.g. the other value of the centroid of the other groups) relative to each other

symbolic value of each of the items (e.g. the value rating for the item) (See col. 10 lines

32-64); and

selecting a plurality of other symbolic values (e.g. multiple value of ratings are

selected after the iterative process is done to form the groups) that minimize each other

variance (e.g. the item rating matches the group centroid when there is minimum

difference/variance from the group centroid compared to the other group centroids) as a

plurality of other mean symbolic values (e.g. the average rating of the other items) that

characterize the plurality of other symbolic attributes of the plurality of items (e.g. the

other mean symbolic values best represents each item of the whole group) (See col. 10

lines 32-64).

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

Claims 8, 13, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Chislenko et al. (US006041311A) in view of Keyes et al. (US007003484B2).

Claim 8 contains the limitations of claim 1 and is analyzed as previously

discussed with respect to that claim. Chislenko discloses selecting the at least one

mean item that provides a minimum value of the variance or "Var (J)" as discussed in claim 1 above. However, Chislenko does not disclose using "Var (J) = $\Sigma_{i \in J} (X_i - X_\mu)^2$" to compute the variance.

It is noted that "Var (J) = $\Sigma_{i \in J} (X_i - X_\mu)^2$" is one of many common and well known equations used to compute the variance (e.g. population/sample variance).

Keyes et al. (Keyes) discloses a minimization function used to assign each data point to a cluster that it belongs to. Keyes discloses a function identical to "Var (J) = $\Sigma_{i \in J} (X_i - X_\mu)^2$", where if μ_{ik} is equal to one then J or "c" is a cluster of items of a class, X_i or "X_k" is the symbolic value of each item, i or "k", and X_μ or "V_i" is the symbolic value of each item, μ (See col. 22 lines 15-37). Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the method disclosed by Chislenko to use the equation form "Var (J) = $\Sigma_{i \in J} (X_i - X_\mu)^2$" to compute the variance such that it minimizes Var (J), as taught by Keyes, in order to provide a more accurate means of grouping items together.

Claim 13 contains the limitations of claims 8 and 9 and is analyzed as previously discussed with respect to those claims.

Claim 18 contains the limitations of claims 8 and 14 and is analyzed as previously discussed with respect to those claims.

Response to Arguments

5.   Applicant's arguments filed December 18, 2006 have been fully considered but they are not persuasive.

Applicant argues with respect to claims 1, 3-9, 11-14, and 16-20 that the claims include specific limitations for identifying and characterizing items, and thus cannot be said to cover every substantial application for identifying and characterizing items. However, the claims merely recite a mathematical algorithm. Furthermore, it is noted that the claims do not recite any specific practical application or physical transformation of the data. The claimed invention merely manipulates data or an abstract idea, or merely solves a mathematical problem without a limitation to a practical application. A practical application exists if the *result* of the claimed invention is "useful, concrete and tangible" (with the emphasis on "result")(Guidelines, section IV.C.2.b). A "useful" result is one that satisfies the utility requirement of section 101, a "concrete" result is one that is "repeatable" or "predictable", and a "tangible" result is one that is "real", or "real-world", as opposed to "abstract" (Guidelines, section IV.C.2.b)).

Furthermore, applicant argues with respect to claim 19 that the claim includes a computer program that is embodied on a computer readable medium, and thus cannot be said to be directed to a disembodied computer program. However, the program/algorithm itself merely manipulates data or an abstract idea, or merely solves a mathematical problem without a limitation to a practical application.

Therefore, the 35 U.S.C. 101 rejections are maintained.

Applicant also argues with respect to claims 1, 3-9, 11-14, and 16-20 that Chislenko does not disclose computing a variance of the symbolic values of plurality of items relative to the symbolic value of each of the items, and does not disclose making a selection based on the symbolic value of an item that minimizes this variance.

However, reading the claims in the broadest sense, Chislenko does meet the limitations

of the claims. Chislenko discloses the system computes a variance (e.g. how much of a

difference/variance is the item rating from the value of the group centroid) of the

symbolic values of the plurality of items (e.g. the value of the centroid of the group)

relative to the symbolic value of each of the items (e.g. the value of the rating for each

item) and selects at least one mean item (e.g. the item best represents the groups

average rating, for example "POP" music rating) that has symbolic value that minimizes

the variance (e.g. the item rating matches the group centroid when there is minimum

difference/variance from the group centroid) (See col. 10 lines 32-64).

Applicant is reminded that although the claims are interpreted in light of the

specification, limitations from the specification are not read into the claims. See *In re*

Van Geuns, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

6.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Joseph G. Ustaris whose telephone number is 571-272-

7383. The examiner can normally be reached on M-F 7:30-5PM; Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Christopher S. Kelley can be reached on 571-272-7331. The fax phone

number for the organization where this application or proceeding is assigned is 571-

273-8300.

Information regarding the status of an application may be obtained from the

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/JGU
February 26, 2007

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